

Municipal Reporter™ vs. Field Inspector vs. TerraSync™

A Product Comparison
by Electronic Data Solutions

Trimble®'s Municipal Reporter™ vs. Field Inspector vs. TerraSync™

The Trimble® Municipal Reporter™ field software is a hosted solution that replaces the traditional paper-based forms in use by many municipalities today. Field workers enter the required data via 'smart forms', which ensure complete and consistent data collection. With the handheld's integrated camera, digital photographs can be embedded in the issue record. As a hosted and wireless solution, the Municipal Reporter system requires no IT infrastructure and allows information to be transferred instantly from the field to the Municipal Reporter web service in the office. The web service provides real-time updates of worker locations and issue status to enable faster decision-making. The Municipal Reporter system also provides a mechanism for generating reports and statistics on the issues reported, timeliness of response and resolutions. Issue information can be exported as a spreadsheet for analysis or exported automatically as a shapefile to an existing GIS database.

The Trimble® Field Inspector solution is a robust asset inspection solution for optimizing utility field operations. Scalable and easy to deploy, the Trimble Field Inspector solution automates a wide variety of field applications for electric, gas, water, and wastewater utilities—from smart meter deployments to routine asset maintenance inspections. The solution comprises the Trimble Field Inspector software for Trimble Mapping & GIS handheld devices and the Trimble Field Inspector Desktop software. The desktop software enables you to extract data from existing organizational databases such as GIS or CMMS and provide it to Trimble Mapping & GIS dataloggers for fieldwork. The Field Inspector software provides flexible, automated workflow options, so that you can streamline the process for adding field data to the GIS or CMMS.

Trimble®'s TerraSync™ Professional is a full-featured yet flexible data collection and data maintenance software package designed to work seamlessly with Trimble's Pathfinder® receivers and Pathfinder Office or GPS Analyst™ extension for ArcGIS®. Data dictionaries are easily set up in Pathfinder Office to ensure consistent, efficient data collection through time-saving features such as attribute pick lists and conditional attributes. TerraSync supports data collection with receivers ranging from the Juno through the GeoExplorer handheld to H-Star™ receivers with sub-foot accuracy, and even Trimble RTK systems. Laser Rangefinders are supported when performing GPS offsets of point features. Other external sensor data can also be integrated with GPS data in TerraSync. Time saving tools such as repeating feature attributes and continuing features will make you more efficient in the field. Trimble also offers a lower-priced version of TerraSync (Standard edition), which is an ideal solution for collecting new GIS data without background file support or data maintenance functionality.

		Municipal Reporter 1.3	TerraSync and Pathfinder Office 5.2	Field Inspector 2.1
Hardware support	Windows Mobile support	Trimble Nomad® G Series and Trimble Juno™ Series	Windows Mobile 5 and 6.x	Trimble Nomad G series, Juno SB/SC/SD, GeoExplorer® 3000 and 6000
	Desktop software support	Windows XP, Vista and Windows 7	Windows XP, Vista and Windows 7	Windows XP SP 3, Vista, Windows 7
Desktop software	Data management location	Cloud	Folder on desktop	Database on desktop
	Database Integration	N/A	Microsoft Access, ArcGIS	Access, SQL, ArcGIS Geodatabase ¹
	Transfer to Handheld	Wireless Web Service	Cabled Data Transfer	Cabled or Wireless Transfer
	Real-time data update	Yes	No	Yes ²
	Handheld location tracking	Yes	No	No
	Export to Shapefile	Yes	Yes	Yes
Field Software	Background vector map format	Google Maps	.ssf, .cor., .imp ³ , .shp	.shp, esri geodatabase
	Background image map format	Google Maps	JPEG, JPEG 2000, MrSID, bmp, TIFF, ECW	BMP, JPG, GIF, PNG, TIF, MrSID
	Coordinate Systems	Lat/Long, UTM	Lat/Long, UTM, State Plane, hundreds more	Lat/Long, UTM, State Plane, hundreds more
	Customizable User Interface ⁴	No	Yes	No
	External Sensor Support ⁵	No	Yes	Yes
	Support for Related Tables	No	No	Yes
	Text Message Support	Yes ⁶	No	No
GPS Support	Real-time DGPS	Yes	Yes	Yes
	Satellite Based Augmentation System (SBAS) Support ⁷	Yes	Yes	Yes
	Virtual Reference Station (VRS) Support	No	Yes	No
	Post-processed GPS	No	Yes ⁸	No
	Navigation Screen	Yes	Yes	Yes
	Integration with Copilot Navigation Software	Yes	No	No
Data Collection	Point Feature Collection	Yes ⁹	Yes	Yes ¹⁰
	Line and Polygon Feature Collection	No	Yes	No
	Attribute Collection	Yes	Yes	Yes

¹ Either ArcGIS® 9.3 or ArcGIS 10 can be available. Simultaneous support for both versions is not supported.

² To transfer data to and from the datalogger when the datalogger is outside the office, the Enterprise version of the desktop software must be installed.

³ TerraSync Professional uses Trimble's native .SSF format as well as reading/writing shapefiles. Pathfinder Office can Import .shp, .dxf, .mif, .dbf, and .mdb files to create an .imp file for use as a background layer or for data maintenance.

⁴ TerraSync Studio is now available in Pathfinder Office 5, and can be used to customize the TerraSync user Interface.

⁵ TerraSync Professional can read data from an external sensor such as a barcode scanner, tree caliper or water quality instrument. Field Inspector can read data from a barcode scanner when integrated with the AFC program.

⁶ Text messages can be sent from the office to the field software, but cannot be sent from the field software to the office. Messages such as task updates, issue reports and tracking messages are automatically generated by the field software and sent to the office.

⁷ SBAS is a general term referring to any satellite-based augmentation system. The International Civil Aviation Organization (ICAO) rules an SBAS must transmit a specific message format and frequency which matches the design of the United States' Wide Area Augmentation System (WAAS).

⁸ TerraSync uses Pathfinder Office or GPS Analyst and base station data to post-process GPS and DGPS positions.

⁹ Municipal Reporter records and maps 'Issues' within 'Tasks' as opposed to 'Features' in a layer. Each issue has its own point location on the map that can be exported to a feature in a shapefile back in the office.

¹⁰ Field Inspector maps 'Inspections' within 'Jobs'. Each inspection has its own point location on the map that will be integrated with the feature at that location back in the office.

	Attribute Picklist Support ¹¹	Yes	Yes	Yes
	Laser Rangefinder Interface (GPS offsets) ¹²	No	Yes	No
	Control of integrated camera and other hyperlinks ¹³	Yes	Yes	Yes
	Accuracy-based logging ¹⁴	Yes	Yes	No
	Metadata Collection ¹⁵	No	Yes	Yes
Data Maintenance	Update Attributes	Yes	Yes	No
	Update Positions	Yes	Yes	Yes
	Filtering & Sorting	No	Yes	Yes
	Status Flags (New, Imported, Updated)	Yes	Yes	Yes
	Direct Read/Write to Shape file in the field	No	Yes	No
	Digitizing Capability ¹⁶	Yes	Yes	Yes

Conclusion: TerraSync is designed for and specializes in the collection of new features and their attributes as well as the update of feature geometry and attributes.

Municipal Reporter is designed and specializes in the mapping, tracking and resolution of issues common to municipalities, such as potholes, broken streetlights, graffiti, pest infestation or illegal dumping. Its wireless hosted solution allows the real-time transfer of data to and from the field.

Field Inspector is designed for utilities that already have a database of assets that need to be inspected and maintained on a regular basis. Its integration with SQL Server or ArcGIS make it ideal for the electronic completion of inspection forms associated with those assets.

¹¹ Pathfinder Office can be used to create a data dictionary with attribute menus that appear as picklists in TerraSync.

¹² Allows use of laser rangefinders for creating GPS offsets. Supported laser rangefinders that interface with TerraSync Professional include: Laser Atlanta proSurvey 1000, Laser Atlanta Advantage, Laser Technology Criterion 300, Laser Technology TruPulse®, MDL LaserAce 300, and Laser Craft Contour XLR. ArcPad supports Laser Atlanta Advantage, Laser Technology Impulse, Laser Technology TruPulse, MDL LaserAce®, Laser Craft Contour, Leica DISTO™ and Leica Locator/Vector.

¹³ TerraSync will link any file type.

¹⁴ TerraSync can restrict logging if estimated accuracy requirements are not met. Municipal Reporter can be set up to give a warning when the estimated accuracy does not meet specific requirements.

¹⁵ Metadata is additional information about the GPS data. TerraSync and Pathfinder Office can collect and export information about the receiver type, correction type, PDOP, and many more. Field Inspector can collect the Average Estimated Accuracy and Worst Estimated Accuracy of each feature.

¹⁶ Create positions for a feature by selecting location on the map. A line or area can contain both GPS and digitized positions.